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On the rate of Sickness and Mortality amongst the Members of Friendly Societies in France. By SAMUEL BROWN, F.S.S., Actuary of the Guardian Assurance Company.

[Read before the Institute of Actuaries, 8th January, 1855, and ordered by the Council to be printed.]

IT is not without some degree of pride, that we recall the fact that England has taken the lead in fostering and extending those social institutions which appear destined to carry out the beneficent design of procuring the greatest possible amount of happiness for the greatest possible number. She has not been afraid to encourage a spirit of self reliance in the mass of the people, and to allow her working classes to associate freely in the effort to equalize the uncertainties of life, so that those who may have a little better fortune than the average may assist those who have a little less. Now and then, indications may have been observed of fear amongst the ruling powers lest this free association should be used for political purposes, and doctrines dangerous to the Government or the good order of society be thereby enabled to circulate too easily amongst classes who may have real wrongs to redress or fancied rights to assert; but, in the long run, good sense has prevailed, and Government has fortunately perceived that Friendly Societies for mutual aid in sickness or want, and other associations for bettering the condition of the working classes, gave them a direct interest in the preservation of the public peace, and formed by their very principles the antidote to the fears they had excited. It would be gratifying, therefore, to perceive the rapidity with which they have spread in this country, could we at the same time feel that they have been conducted as well as they have been designed, and, in their pecuniary point of view, not fallen short of the expectations they have raised. The contrary has been lamentably the case. The greater part of our Friendly Societies or Sickness Clubs were for many years in a deplorable state of insolvency, inflicting widespread misery just at the time when their aid was most important, and failing to fulfil their obligations to their members at a period of life when, from incapacity to work, they were obliged to claim the relief for which they had been so long laboriously saving. There can be no doubt that the great cause of this wretched condition of Societies which might have been so useful was the want of data for a correct estimation of the risks, the ignorance of the managers of the rapid growth of their liabilities with the age of the members, the smallness of the

numbers in each club (which probably arose from the desire which so many of the members had to be office-bearers), and the consequent inordinate expenses when compared with the income. These evils were found to prevail even in the best regulated. Other causes rapidly hastened the dissolution of the worst—such as the meeting in public houses, the owners of which, being treasurers of the funds, saw them diminish without fear whilst they passed into their own pockets in the way of business; costly processions, with banners and music, losing the day's wages from which the sickness of a future day was to be provided for; and various other equally absurd practices, opposed to the very spirit and object of these institutions. Notwithstanding these serious drawbacks, the benefits derived from the system have been so great, these unions are so adapted to the wants of the working classes, and have such an inherent vitality of good in them, that the evils complained of have been gradually removed, or are in the process of it, and the defects of information are every year being supplied. The first item, the want of data, is by far the most important; and several distinguished writers have given themselves with zeal to the collection and publishing of facts, or theories which, in the absence of facts, they endeavoured to draw from other reasonings. In the early history of this branch of study, Price and Morgan did good service; and in later periods Ansell, Edmonds, Neison, Ratcliffe, and last of all Finlaison, have proved the energy and spirit with which this difficult subject has been taken up in this country, both by the Government and the people. Mr. Edmonds, in his interesting paper in the *Lancet* (which is also inserted in the last Number of the *Assurance Magazine*), enumerates the extent of the observations of sickness and mortality, according to age, already recorded:—The Highland Society's report, 85,000 years of life; Mr. Ansell's, 25,000; his own, in the *Lancet* of April 1839, 30,000; Mr. Neison, for the five years ending with 1840, 1,000,000; Mr. Ratcliffe, the Manchester Unity of Odd Fellows, 600,000, during the three years ending with 1848; and, lastly, Mr. Finlaison's, Jun., in the Government Report just issued, about 800,000 years of life, extending over the five years ending with 1850.

By the side of these large and important collections for this country, the observations in France, to which I now beg to call your attention, appear very trifling. They are nevertheless important, as being the first fruits of a direct inquiry made with the laudable purpose of encouraging in France the increase of institutions which it is admitted owe their greatest development there to the example of England. Both in this and in the kindred sub-

ject of life assurance, our neighbours, now so nobly emulous with us in the glories of war, are commencing a still more honourable rivalry in the arts and enterprises of peace, and in those social improvements which confer more than glory, in diffusing happiness amongst the people.

From 1801 to 1847 the Société de Secours Mutuels of Paris received great encouragement and aid from the Société Philanthropique; but, as the system spread, it was found to distract attention too much from the other important objects of that Society, and in 1849 a number of enlightened men, standing high in government, in banking, or in commerce, formed a new union, under the title of "Comité pour la Propagation des Sociétés de Prévoyance," in order to extend the working of these useful institutions. In the inquiries made by this committee into the state of the Sociétés de Secours Mutuels, it was found that many were in the same deplorable state as they were formerly discovered to be in England, and principally for the same reason—the want of the data for calculating the risks. Besides, therefore, collecting the documents and statistics of these Societies, the committee sent out forms for a new collection of facts as to the sickness and mortality experienced amongst their members, and were so far successful in the results that in 1851 they determined to print a *Mémoire sur l'Histoire et l'Organisation des Sociétés de Secours Mutuels*," and a table of sickness deduced from the observations they had obtained. The publication was entrusted to M. M. G. Hubbard, their secretary, who acknowledges the obligations he owed in the formation of the tables to the mathematical talents of M. Olinde Rodrigues, who had already written on the *Caisses de Retraite*. This treatise was published in July, 1852.

It would take too much of your time to go generally into the subject of the Societies of which this useful work gives a sketch of the history and organization. I propose only, on this occasion, to show the method employed in obtaining the facts relating to sickness and mortality, and give a brief comparison of the results with the English tables.

The principal tables of mortality in use in France are—

1. That by Deparcieux, which was deduced from the registers of the French Tontines of 1689, 1706, 1709, and 1734; but which is considered, from the nature of the observations, to be more especially applicable to the higher classes.

2. Dupré de Saint Maur and Buffon published a table based upon the deaths recorded in three parishes in the city of Paris, and twelve parishes in the environs; but though prepared with

scrupulous care, it is too full of anomalies to have come into general use, although M. de Saint Cyran, in 1779, corrected its irregularities.

3. In 1806, Duvillard, in his *Analyse de l'Influence de Petite-Vérole sur la Mortalité*, formed a table of observations from a great number of facts collected in various parts of France before the Revolution, which he conceived to represent very closely the actual law of mortality in that country; but so many changes in the population have occurred for the better since that period, that if it ever represented the real state of the question, it has for some time been deemed to show too high a rate of mortality, and ceased to be regarded with much authority.

It may be remarked, that the table of Duvillard bears much the same analogy to that of Deparcieux which the Northampton Table does to the Carlisle, and has consequently been used in a similar manner; the former having been adopted to a great extent for *life assurance*, and the latter for *life annuities*. Out of 1,000 persons at age 25, the survivors would be—by Duvillard, 353, and by Deparcieux 510; by the Northampton 343, and the Carlisle 514.

In recent periods (about 1838) a very extensive series of observations have been completed by M. de Montferrand, which, I believe, are corrected in a great measure from the population returns given in the *Annuaire du Bureau des Longitudes*. They make a distinction between the mortality of males and females, and have lately excited much attention.

In the *Annales d'Hygiène* appear some excellent papers, by M. Benoiston de Châteauneuf and M. Villermé, on the comparative mortality of the rich and poor; and, with this exception, the tables hitherto published are all defective in the special application for the purpose in view, and throw little light on the subject of the mortality of the labouring classes, taken by themselves, and none at all on the important inquiry as to the rate of sickness amongst them.

In 1809, M. Mourgue, having devised a plan for the relief of the working classes, in connection with a savings fund and provision for old age, directed his inquiries to the number of sick persons received in the hospitals of Paris, compared with the total labouring population; and the result was seven days of sickness for each individual, as the mean of five years. At a later period M. Gérando concluded that, for each inhabitant of Paris, the average sickness was eight or nine days per annum.

In 1830, M. Villermé, being requested by the Société Philanthropique de Paris to make a report on the subject to the delegates

of the Friendly Societies of Paris, first drew attention to the returns of the Highland Society, and suggested that this table might be adapted to the wants of the French Societies by correcting the table according to the difference of the rate of mortality in England and France. It will be observed, that this was at once recognizing the law, which most subsequent observations have confirmed, of the constant ratio which prevails between the laws of sickness and mortality. In 1844 this hint was acted upon by M. Deboutville, in calculating the rates to be charged by the French Societies, graduated according to ages; and after comparing, for the first thirty years of the ages taken, the sickness of the Highland Society's returns with the Carlisle Table, he multiplied the numbers so obtained by $\frac{3}{4}$ ^{ths}, being the ratio of the mortality of France to that of England, as deduced and published by M. Quetelet. The result was a mean of $18\frac{1}{2}$ days annually between the ages 26 and 70, which would be reduced to 12·77 if restricted to the periods 21 to 65 years of age.

The mean for each five years of age, by the above table, is

Ages.	Days of Sickness.	Ages.	Days of Sickness.
20 to 25	5·9	45 to 50	12·2
25 „ 30	6·7	50 „ 55	14·5
30 „ 35	8·0	55 „ 60	18·3
35 „ 40	9·5	60 „ 65	28·7
40 „ 45	10·7	65 „ 70	69·8

The sum of the total days of sickness, 923·5, is 60 more than that of Mr. Ansell's, and 130 less than that of Mr. Neison. However defective this table may be in authority, from the mode in which it was formed, it deserves attention as the first attempt practically to apply the knowledge already acquired in another country, and regulate the sickness rates in France by a law deduced from the mortality.

To obtain, however, a more accurate collection of facts, the committee we have described sent, in the month of March, 1850, a circular to all the delegates of the Societies of Paris and of the departments whose address they could obtain, requesting them to have the goodness to fill up two forms enclosed with all the facts relating to each Society from its commencement. The circular contained also instructions, and a list of questions to be answered and returned to the committee, with the statutes and rules of the Society. The first form was almost exactly the same as that required from the English Societies by the Government Act of 1829; although, instead of restricting the returns for five years,

the committee left the Societies to fill in for as many years as they pleased. They requested also the money payments for the days of "sickness" and "infirmity," and the date when the members quitted the Society, by becoming entitled to a pension, by withdrawal, or dismissal.

As the Societies do not generally admit members until they have satisfied the law of conscription, and as almost all grant pensions commencing at 65 years of age, the observations may naturally be expected to be limited between the ages 21 and 65, although a few may be found to extend to 70. Having collected these facts, it was thought sufficient to combine them in periods of five years—ages 21 to 25, 26 to 31, &c.

The 25 Societies (out of 150) which responded to the appeal—some giving their experience for even 30 years—furnished a total of observations amounting to 44,069 years of life, during which they have paid 453,222 francs (£18,129) for 257,478 days of "sickness," and 46,755 francs (£1,870) for 102,979 days of "infirmity." During that time they have admitted 3,319 new members, and have lost by deaths 590, and by withdrawals 1,898.

There is great difficulty in ascertaining at present the number of the Sociétés de Secours Mutuels in France; but judging from the accounts rendered by the Government of their investments in the savings' banks, which neither include the whole of those publicly established nor those privately attached to particular workshops, the subject appears to be still quite in its infancy. M. Hubbard gives a table showing the number of the Societies so ascertained in each department of France, and the total investments are not equal to much more than two thirds of one year's income of the Manchester Unity of Odd Fellows in England. In a population of 35,401,761, he enumerates only 2,056 Societies, with investments of £228,809; but allowing for those unknown, he estimates that there may be about 2,500 Societies, with an average of 160 members each, giving a total of 400,000 members and an annual income of £288,000. It appears that not only are many of them in the same deplorable condition as the English clubs, but the same causes contribute to their dissolution. Thus some divide their whole funds at the end of every year. The saint's day of the Society is sometimes held by others in doubtful honour at a cabaret. The aubergiste lets his rooms to the members, and, becoming the delegate, takes care that the funds are to a great extent expended with himself. Occasionally, even, there is a fine for anyone who does not spend 50 cents in beer. This system is now wearing out; but no wonder it led to frequent failures formerly. In Paris

alone, out of 205 Societies established before 1831, 66 had failed by 1840, and 37 of the remainder had not a capital of £4 for each member; and in Rouen, of 35 Societies founded since 1808, 22 had already disappeared in 1843.

To return to the observations newly collected, the following table will show the general summary of the 44,069 years of life, classified in quinquennial periods of age. In deducing therefrom the tables for use, the number entering and the number withdrawn have been taken at one half, as being supposed to continue in each case only through half the year of observation. The number "unknown" have not been classified in proportion, it being considered that some of these Societies contained an unusual proportion of old lives.

TABLE I.—*Showing, in Quinquennial Periods of Age, the Returns of Sickness and Mortality in 25 Sociétés de Secours Mutuels of France.*

(1) Ages.	(2) Admis- sions.	(3) Years Observed.	(4) Days of Sickness.	(5) Payments for ditto.	(6) Deaths.	(7) With- drawals.	(8) Days of Infirmity.	(9) Payments for ditto.
20 & under	62	115	290	£. 14.14	3	14		£.
20 to 25	540	1,755	7,201	470.04	12	160	500	4.13
25 „ 30	741	4,085	19,090	1329.81	27	267	1,643	23.67
30 „ 35	904	6,650	28,329	1986.36	57	354	2,781	47.17
35 „ 40	758	8,366	40,832	2907.77	64	357	4,564	78.94
40 „ 45	190	7,365	44,438	3169.98	64	230	14,151	236.50
45 „ 50	11	5,593	35,466	2517.02	86	88	11,169	193.18
50 „ 55	2	3,702	23,507	1570.02	60	55	9,883	164.06
55 „ 60	..	2,427	21,290	1479.46	49	44	6,875	124.74
60 „ 65	..	1,409	15,116	994.13	41	78	11,592	209.44
65 „ 70	..	544	5,677	418.92	29	20	8,751	191.27
70 „ 75	..	147	1,774	128.45	19	11	7,570	91.16
Unknown	111	1,911	14,468	1142.77	79	220	23,500	505.97
	3,319	44,069	257,478	18128.87	590	1,898	102,979	1870.23

M. Hubbard notices the error which has occurred in all English tables, except the recent ones of Finlaison, of confounding claims for superannuation with claims for sickness. Mr. Henry Tompkins, in his very excellent essay on the Sickness and Mortality experienced in Friendly Societies, read before this Institute and published in the 17th Number of the *Assurance Magazine*, points out the consequences of this error very forcibly, and shows that both by Ratcliffe's and Neison's tables the effect above the age of 60 is to double the cases of sickness as compared with Finlaison's tables; which is also noticed in Mr. Edmonds' paper in the last Number of the *Assurance Magazine*. Columns 8 and 9 in the above table,

headed "days of infirmity" and "payments for ditto," are intended to allow of this correction being made—the word "infirmity" having the same meaning as "superannuation," though more expressive of the truth, as some such cases are found at comparatively young ages. Taking, then, the proportion of payments for a measure, M. Hubbard deduces from the days of "sickness" the number of days which would correspond with the same amount of payment for "sickness" as is made for "infirmity." Thus the average payment for each day of sickness, on the total observations, is 1·76 francs, and for infirmity 0·45 francs, the former being to the latter as 1 to ·258: about four days of "infirmity," therefore, may be counted as one of sickness. He consequently adds $102,979 \times \cdot 258 = 26,568$ days' "infirmity," to the days of "sickness," making the total of observations $257,478 + 26,568 = 284,046$ days; and, deducting from the total years of life half the number who entered and withdrew, he finds $\frac{284,046}{41460\cdot5} = 6\cdot85$, average number of days of sickness per year.

It should be observed, that as this average results from money payments made by Societies, it would not exactly represent the average of sickness in a community, as in most cases some days of sickness would elapse before relief would be actually granted. M. Hubbard thinks that so much as five days should be added for every case of sickness observed: it seems to us rather a large proportion.

After the correction made as above suggested, the following table gives the summary of the results in quinquennial periods of age:—

TABLE II.—*Corrected Tables of the rates of Sickness and Mortality in the French Societies.*

Ages.	Years of Observations.	Days of Sickness and Infirmity.	Rate of Sickness.	Deaths.	Rate of Mortality per cent.
20 & under	77	290	3·76	3	3·89
20 to 25	1,405	7,265	5·17	12	·85
25 „ 30	3,581	19,430	5·42	27	·75
30 „ 35	6,021	28,991	4·81	57	·94
35 „ 40	7,809	41,936	5·37	64	·82
40 „ 45	7,155	47,763	6·67	64	·89
45 „ 50	5,544	38,191	6·88	86	1·55
50 „ 55	3,674	25,958	7·07	60	1·63
55 „ 60	2,405	23,105	9·61	49	2·00
60 „ 65	1,370	18,304	13·36	41	2·99
65 „ 70	834	8,267	15·48	29	5·43
70 „ 75	1,415	3,031	21·34	19	13·42
Unknown	..	20,883	11·97	79	4·53
All ages	41,460	..	6·85	590	1·42

In order to complete these observations for the use of the English reader, I subjoin a table combining the facts of two which M. Hubbard gives for each age, having deduced the results from the original observations by third differences, and the mortality after 70 years being continued by the table of Deparcieux.

TABLE III.—*Showing the Decrements of Life, the Rate of Mortality and the Mean Days of Sickness, and the Mean Duration of Life, at each Age, by the experience of the French Sociétés de Secours Mutuels.*

Age.	Living.	Deaths.	Mortality per cent.	Mean days of Sickness for each Life.	Mean duration of life.	Age.	Living.	Deaths.	Mortality per cent.	Mean days of Sickness for each Life.	Mean duration of life.
21	10,000	90	·90	4·072	41·83	58	6,656	120	1·80	9·500	15·70
22	9,910	83	·84	4·604	41·21	59	6,536	141	2·16	10·748	14·98
23	9,827	79	·80	5·000	40·55	60	6,395	155	2·42	11·724	14·30
24	9,748	76	·78	5·276	39·88	61	6,240	163	2·62	12·476	13·64
25	9,672	74	·77	5·448	39·19	62	6,077	170	2·80	13·052	12·99
26	9,598	74	·77	5·532	38·49	63	5,907	177	3·00	13·500	12·35
27	9,524	77	·78	5·544	37·77	64	5,730	195	3·35	14·172	11·72
28	9,447	76	·80	5·500	37·08	65	5,535	212	3·76	14·736	11·12
29	9,371	81	·86	5·296	36·38	66	5,323	229	4·23	15·164	10·54
30	9,290	83	·89	5·148	35·69	67	5,094	247	4·77	15·428	9·99
31	9,207	83	·90	5·052	35·01	68	4,847	267	5·40	15·500	9·47
32	9,124	83	·91	5·004	34·32	69	4,580	300	6·41	16·188	8·99
33	9,041	81	·90	5·000	33·63	70	4,280	283	6·62	17·084	8·59
34	8,960	79	·88	5·012	32·93	71	3,997	275	6·87	18·236	8·17
35	8,881	76	·86	5·076	32·22	72	3,722	275	7·38	19·692	7·73
36	8,805	74	·84	5·184	31·49	73	3,447	274	7·96	21·500	7·31
37	8,731	71	·81	5·328	30·76	74	3,173	275	8·65	..	6·90
38	8,660	69	·80	5·500	29·99	75	2,898	261	9·00	..	6·50
39	8,591	60	·70	5·740	29·24	76	2,637	261	9·89	..	6·10
40	8,531	58	·68	5·960	28·44	77	2,376	261	10·98	..	5·71
41	8,473	61	·72	6·160	27·63	78	2,115	247	11·68	..	5·36
42	8,412	66	·79	6·340	26·82	79	1,868	247	13·23	..	5·00
43	8,346	75	·90	6·500	26·04	80	1,621	233	14·40	..	4·69
44	8,271	94	1·14	6·784	25·27	81	1,388	220	15·84	..	4·39
45	8,177	108	1·32	6·952	24·56	82	1,168	192	16·47	..	4·12
46	8,069	117	1·45	7·028	23·88	83	976	165	16·90	..	3·84
47	7,952	122	1·54	7·036	23·22	84	811	151	18·64	..	3·52
48	7,830	125	1·60	7·000	22·57	85	660	137	20·83	..	3·21
49	7,705	125	1·62	6·752	21·93	86	523	124	23·68	..	2·92
50	7,580	124	1·63	6·636	21·29	87	399	96	24·13	..	2·67
51	7,456	121	1·62	6·644	20·63	88	303	83	27·27	..	2·36
52	7,335	118	1·61	6·768	19·96	89	220	69	31·26	..	2·06
53	7,217	115	1·60	7·000	19·28	90	151	55	36·36	..	1·77
54	7,102	111	1·57	7·212	18·58	91	96	41	42·85	..	1·50
55	6,991	110	1·57	7·596	17·87	92	55	27	50·00	..	1·25
56	6,881	111	1·61	8·124	17·15	93	28	14	50·00	..	1·00
57	6,770	114	1·69	8·768	16·43	94	14	14	100·00

With regard to the table of mortality here exhibited, it will be found to approach nearer to the Carlisle and Deparcieux than to the Northampton or Duvillard, but, no doubt, for the same reason

which has affected the results in the experience of Life Assurance Companies—that is, the exclusion from the Societies of lives which are manifestly unhealthy at the age of entry, as well as the admission of a class who, by the payments they are enabled to make of their surplus earnings, evidently show that they are not suffering those extremes of indigence and misery which would act on a table including the general population of a country.

The comparison with other tables will be best shown by the following short summary of the mean duration of life, by the principal tables used in France, Belgium, and England :—

TABLE IV.—*Showing a comparison of the Mean Duration of Life by different Tables.*

Age.	FRANCE.			BELGIUM.	ENGLAND.			
	French Sociétés de Secours Mutuels.	Deparcieux.	De Montferrand (Males).	Quetelet.	Carlisle.	Farr.	17 Life Assurance Comp.	Friendly Societies (Neison).
30	35·69	34·06	34·00	31·66	34·34	33·13	33·17	36·60
40	28·44	27·48	27·00	25·70	27·61	26·56	26·06	29·33
50	21·29	20·38	19·91	19·79	21·11	20·02	19·41	22·19
60	14·30	14·25	13·25	13·58	14·34	13·59	13·47	15·69

From the comparison it appears that a rather greater mortality was experienced in the French Friendly Societies, at and under the age of 40, than by Neison's table, and rather less at the advanced ages. It is remarkable that the mortality in the French Sociétés de Secours Mutuels appears to be less than by the table of Deparcieux, which corresponds very nearly with the Carlisle Table, and that the same favourable circumstances may be observed in Mr. Neison's table of the mortality in the Friendly Societies of England.

In regard to sickness, a considerable difference will be observed between the French and English tables ; but this arises in a great measure from the correction which M. Hubbard has thought it incumbent on him to make as to the difference of rates for superannuation allowance. In order to compare them together it is necessary to take the facts as they originally stood, one day of the latter counting in the same manner as one day of the former. In the application of the table to real use the correction may be just ; but it would evidently lead to false inferences in comparison with the English tables, in which such correction had not been made. We have then the fair comparison as follows :—

TABLE V.—*Showing the Rate of Sickness in Days in each Quinquennial Period.*

Ages.	Hubbard (French).	Ansell.	Neison.	Finlaison.
20 to 25	5.48	5.5	6.0	6.86
25 „ 30	5.79	5.9	6.3	6.91
30 „ 35	5.17	6.4	6.6	6.92
35 „ 40	5.83	7.3	7.6	7.82
40 „ 45	8.19	8.8	9.5	8.83
45 „ 50	8.41	10.8	12.3	10.53
50 „ 55	9.09	14.	16.7	12.97
55 „ 60	11.70	19.7	23.8	16.45
60 „ 65	19.49	31.8	42.3	23.65
65 „ 70	27.02	62.7	79.7	36.05
70 „ 75	66.03			58.26

The total number of the days of sickness up to age 70 is, by Ansell, 863 ; Neison, 1,053 ; Finlaison, 685 ; and Hubbard, only 403.

I will only conclude with the observation, that none of the French tables serve to indicate the mortality or sickness caused by different occupations. In the present state of these studies in France we could not expect to find the elaborate subdivision which we notice in Ratcliffe or Neison, or that useful combination of trades into classes of “light labour exercised in the open air” or “in shelter,” and “heavy labour exercised in the open air” or “in shelter,” by which Mr. Finlaison’s recent tables are distinguished, nor even that distinction of various provinces in which particular classes of labour more generally prevail ; but there exist some observations made in the hospitals of Paris in 1850, in which an attempt was made to deduce the duration of sickness, and the number of sick for each death, according to the occupation of the patient. These, like similar observations made in the English hospitals, are of little use without knowing the number of persons engaged in each trade, and whether the due proportion of each entered the hospitals ; but it affords some curious results as to the intensity and duration of sickness according to occupation in France, and I therefore subjoin the table.

If the like observations could be made for all the hospitals of Paris, and a careful enumeration effected of the number of persons engaged in each trade or occupation within the limits to which the benefits of admission to the hospitals would extend, the facts would be useful for many important applications.

TABLE VI.—*Showing, from observations in the Hospitals of Paris for the year 1850, the Duration of Sickness and the Mortality in different Trades.*

Occupations.	Observations.			Duration of each case of Sickness.	Number of Sick for each Death.
	Cases of Sickness.	Days of Sickness.	Deaths.		
Coachmen	303	5·398	21	17·81	14·42
Stonecutters	227	5·771	17	25·42	13·35
Masons	1,000	23·381	69	23·38	14·49
Tilers	216	4·045	21	18·72	10·28
Zinc workers	59	1·623	6	27·51	9·83
Plumbers	73	1·848	7	25·31	10·42
Marble workers	102	2·425	9	23·77	11·33
House painters	905	19·894	66	21·98	13·71
Paviors	113	2·608	9	23·07	12·55
Scavengers	29	7·54	2	26·00	14·50
Woolcombers	80	1·503	9	18·78	8·88
Spinners	136	2·961	8	21·76	17·00
Weavers	221	5·699	10	25·78	22·10
Dyers	162	3·735	15	23·05	10·80
Tailors	927	21·424	73	23·11	12·69
Tanners	106	1·373	9	12·95	11·77
Bakers	584	12·473	29	21·35	20·13
Braziers	57	1·296	5	22·73	11·40
Whitesmiths	146	4·276	11	29·28	13·27
Jewellers	300	6·081	24	20·27	12·50
Gilders	107	2·174	5	20·31	21·40
Varnishers	79	1·515	4	19·18	19·75
Colour makers	39	8·09	3	20·74	13·00
Turners	458	9·085	25	19·96	18·32
Smelters	327	6·794	22	20·77	14·86
Polishers	126	2·461	10	19·53	12·60
Workers in metal	123	2·065	7	16·70	17·57
FEMALES.					
Winders	172	3·678	15	21·38	11·46
Woolcombers	93	2·006	5	21·56	18·60
Spinners	116	2·703	15	23·30	7·73
Washerwomen	1,668	35·802	112	21·46	14·82
Confectioners	4,268	105·924	388	24·81	11·00
Polishers	134	2·863	7	21·37	19·14
Burnishers	159	3·428	12	21·55	16·41
Gilders	46	1·037	2	22·54	23·00
Varnishers	59	1·321	6	22·39	9·83

In a remarkable work on the benevolent institutions of France, M. de Watteville, in 1851, stated the ratio of deaths in the hospitals of Paris to be 1 in 11, both for males and females. This was for the year 1847, which from the dearth of provisions and the consequent misery in the poorer classes must be considered exceptional. He estimates also the average duration of sick cases in the hospital as 24 days for males and 25 for females. In the preceding table no class of females exceeds the latter number; but

in the males, the former is exceeded by the stonecutters, the zinc workers and plumbers, the scavengers, the weavers, and white-smiths. The average mortality amongst female cases seems by the table to be greater amongst females than males, the former being one death for 11·94 patients, and the latter one in 13·92 ; but this may arise from females not having recourse to the aid of the hospital till the last extremity.

The researches made by the Society we began by alluding to in France, and the publication of M. Hubbard's excellent treatise, will no doubt awaken the same interest which those of the Government and of individuals have excited in England. We cannot but heartily wish them success. Whilst the results of these inquiries serve the cause of science, they tend to alleviate the miseries to which society is subject, and raise at once the character of the people in the scale of civilization and humanity.

PARIS.—*Guide de l'Assureur et de l'Assuré en matière d'Assurances Maritimes.*—This very useful work, by M. le Capitaine Gabriel Lafond, the able manager of the principal Maritime Assurance Company of France (l'Union des Ports), and one of the Foreign Correspondents of the Institute of Actuaries, is about to be republished, with much additional information and notes, and the usages of marine assurance and forms of policies in all foreign countries. It is of quite a different character from any work on marine assurance in this country, which, with the exception of Lee's *Manual for Shipmasters*, principally relate to the laws and the changes in the laws of shipping. We hope very shortly to be able to make an analysis of this book for such of our readers as take an interest in these matters.

We have also much gratification in recording Capitaine Lafond's offers of service to the members of the Institute, as expressed in the following note:—

"Note à lire dans la première Séance de l'Institut des Actuaries de Londres.—G. Lafond, Directeur-Ménager de l'Union des Ports, Correspondant de l'Institut à Paris, offre de bien bon cœur à Messieurs les Membres de l'Institut de recevoir dans ses bureaux les lettres, journaux, et paquets qui pourront leur être adressés lorsqu'ils viendront visiter l'Exposition Universelle. Une chambre séparée, avec almanach des adresses, encre, papier et plumes, sera à la disposition de tous les Membres, pour faire leur correspondance. Ils pourront laisser dans des cartons leurs papiers. La bibliothèque de M. G. Lafond, de 3,000 volumes au moins, leur sera ouverte. Un bureau de poste étant dans la maison, qui est située Place de la Bourse, No. 4, et par conséquent au centre de Paris, leur facilitera toutes leurs moindres besoins. Il va sans dire que M. G. Lafond offre son local et ses services gratuitement, pour être agréable à ses collègues et amis de l'Institut."